

Building Materials Salvage

Environmental and business development opportunity



About the project

Building type: single family home

Square feet: 1680

Construction: wood frame, two story, below-grade basement, detached garage

Year built: 1908

Location: Fremont neighborhood, Seattle

Project completed: September 2008

Diversion method: house moving

This 1905 Craftsman house had recently been painstakingly restored by its owners, who operated the home as a bed and breakfast. The neighborhood historical society considers the home one of the most architecturally significant houses of the Fremont neighborhood. Recent zoning changes had opened the area to dense development. When developers purchased the home for the purpose of building townhouses on the up-zoned lot, the house was scheduled to be demolished.

Approach

As a result, the whole community came together to do what they could to save the house. The neighborhood and the Fremont Historical Society helped bring media attention to the house in hopes that it would be spared from demolition. They approached Nickel Bros. House Moving who quickly listed the threatened house on its website and were successful in finding a local property owner with plans to build a new home on their lot. The owner decided to move the existing lot to his property instead of building new.

Nickel Bros. prepared the house for moving by installing extra bracing, removing the basement wall and ceiling finishes, and loading the house onto two large structural beams. Dollies were placed under the rear portion of the beams while a tractor-truck was hooked to the front. The move was scheduled from 2:00 a.m. to 11:00 a.m. so as not to disrupt daytime traffic in

Project participants

Owner: Private owner

House moving: Nickel Bros. House Moving
www.nickelbros.com

Project support: Seattle Public Utilities
www.seattle.gov/utilities

Fremont House Move

A historically significant 1905 home in Seattle's Fremont neighborhood is spared from demolition by a whole-house move from its original location to a nearby lot. The move resulted in the reuse of 85 tons of materials and an estimated \$100,000 savings to the new owner, compared to building new.

Resources

Seattle 's City Green Building Program

technical assistance and advice on green building strategies, including sample deconstruction specifications, design for disassembly guidelines, remodeling guide to salvage and reuse, and how-to information on salvaging windows, doors, and flooring. City Green Building also provides incentives and assistance to increase the environmental performance of buildings in Seattle.
www.seattle.gov/dpd/GreenBuilding

King County GreenTools Program

directory of recycling and salvage services for construction materials, lists recycling rates for local companies handling construction and demolition materials, and has additional deconstruction case studies.
www.greentools.us

Seattle Dept. of Planning + Development Client Assistance Memos (CAMs)

CAM 336: Reuse of Building Materials
CAM 337: Demolition Permits
CAM 1302: Building Material Salvage and Recycling
www.seattle.gov/dpd/publications/

WA Dept. of Ecology: Demolition Debris

Describes the solid waste and hazardous waste elements of demolition debris.
www.ecy.wa.gov/programs/hwtr/demodebris/

For more information

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Seattle Public Utilities
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This information available in other formats upon request.



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Fremont House Move

the neighborhood as the home traveled fifteen winding blocks to its new location. Overhead utility wires had to be temporarily taken down along the move route and some low-lying trees had to be pruned and/or removed and replaced along the street. The remaining concrete foundation was later crushed for recycling. Some elements of the single-car garage were salvaged including the garage door, windows, siding, trim, and dimensional lumber. The remainder of the garage was then demolished and disposed, along with the basement finishes.

Schedule

Within the twelve weeks that Nickel Bros. House Moving caught word from the Fremont Historical Society of the house 's impending demolition, they were able to find a receiving property, secure all necessary permits, prepare the house and perform the move.

Lessons learned

The house move was successful from a triple bottom line approach. The developer saved money on demolition and disposal costs. The owner's total cost for the move (\$140,000) was offset by the house value on the receiving property, which is expected to be approximately \$350,000. With other finishing costs expected to total \$100,000, the owner is receiving a historic-quality house for about \$100,000 less than its projected appraisal value. House moving also helps save valuable resources and lessens environmental impact by reducing the demand for virgin materials for new housing.

The house move itself was particularly challenging given the house's height and the narrow streets in the residential Fremont neighborhood. The move route involved traversing an extremely steep hill and the moving logistics involved a great deal of upfront planning. The move took about twenty percent longer than expected and the utility wire moving costs roughly doubled based on the challenges on the route. A better understanding of the obstacles along the tight move route would have helped the house mover and the owner better anticipate moving costs.

Project costs + benefits

House move (includes permits, moving, utility line management, tree pruning + replacement)	-\$140,000.00
Estimated remodel cost, post-move	-\$100,000.00
Avoided disposal fees*	\$10,200.00
Estimated value of house, post-move	\$350,000.00
Savings over demolition/new construction	\$120,200.00

* Assumes \$120 per ton disposal rates

Materials analysis

Material	Tons
House (reused)	85.0
Concrete foundation (recycled)	49.5
Basement finishes (disposed)	2.0
Total tons generated	136.5
Total tons diverted from landfill	134.5

Total diversion rate: 98.5%

In spite of the challenges, this project saved approximately 65 tons of demolition waste from disposal and created job opportunities equivalent to roughly 200-person hours for Nickel Bros. House Moving. The project also earned large amounts of media attention, providing education to the public house moving as a method for saving valuable resources from disposal.